System Solutions for Machine Automation

Advanced Controls Driving Precision Mechanics

Parker Automation
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Providing a complete solution for your automation application is what we do best. Parker’s Automation Group supplies you with the widest array of products for machine automation. Each part of the system is engineered, manufactured and delivered with the highest quality and convenience in mind and each can be seamlessly integrated to provide you with unlimited automation system solutions. Parker Automation is the single source for all of your machine automation requirements!
Providing System Solutions At Your Level of Integration

Looking For A Complete Machine?...Parker’s Integration Network Is Your Solution.

To help you locate the most qualified independent systems builders for any size automation application, Parker has developed the Parker Integration Network (PIN).

Parker’s PIN program consists of over 100 System Integrators. They combine Parker’s leadership in motion control technology with specific application design expertise to meet virtually any machine automation requirement.

The Parker Integration Network provides you with one-stop problem solving. The PIN program enables Parker and its System Integrators to provide premier customer service by acting as a single, qualified team with local sales and distribution.

Parker’s selectable levels of integration provide “perfect fit” solutions for OEM’s, Machine Builders, Integrators or End Users. Parker mechanics offer unlimited configurations — from precision table top systems for clean room requirements, to overhead gantries for the factory floor. Parker electronics offers control schemes to fit any application — whether retrofitting existing machines or providing the front end for new systems. Parker automation lets you pick the level that suits your need and fits your capability.

Systems

Many machine builders choose to integrate a full electromechanical system into the machine. Parker, in conjunction with its Automation Technology Center (ATC), is uniquely qualified to supply a full electromechanical solution. Parker has the knowledge, experience and support to ensure that your machine automation goals are met.

- Minimal design engineering required
- Ensured component compatibility
- Single source of supply
- Parker ATC Integration support
  - Start-up assistance
  - Machine programming

Sub-Systems

Many machine builders find it efficient to break down the full system into sub-systems to allow collaboration and specialization. Mechanical sub-systems incorporate the structure and mechanical components that define the motion of the machine. Critical issues are speed, accuracy and other dynamic application needs. Electrical sub-systems incorporate all the control elements of the machine. Critical issues are machine functionality, timing and connectivity. The Parker offering lends itself well to the development of sub-systems or assemblies based on the array of products that are developed to flexibly work together.

- Reduced design engineering tasks
- Straightforward integration and connectivity

Products

Parker has one of the broadest ranges of machine automation products available and these products are the foundation of the solutions we offer. If you have the experience and capability to do it yourself, Parker’s innovative and easy to use products will help you get the job done.
Electrical Sub-Systems

Unlimited Application Solutions
Automated assembly, labeling, vision system inspection, ultrasonic inspection, electronic testing, sensor / measurement, optical / laser, gauging, cycle testing, sorting, sampling, data collection pick & place, tray handling, elevator, stacker, palletizers, load / unload, index table, storage & retrieval systems, riveting, cutting, drilling, welding, swaging, forming, winding, bending, assembling, screwdriving, dispensing, gluing, sealing, press feed, material feed, soldering, painting, spraying, blasting/abrasion, simulate, package, barcode read, press, pull, die bonding, and many more...

Parker Offers
- The world’s first PC-Based Logic Control (PCLC)
- Ethernet driver to the motion controller
- Fieldbus drivers for I/O, motion and other devices

* RICOS PT 100 RTD I/O photo courtesy of Wieland Electric Inc.

PC Logic Control

Motion Controller Based Control

Parker Offers
- Stand alone controllers with I/O capability
- Expandable I/O modules

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PC Logic Control

Traditional industrial control methodologies meet with PC industry driven performance and price in the PCLC control type. By using a PC-based logic controller, cost effective PLC replacement is a reality.

MachineLogic is a RTX-DOS based real time operating system control program that was developed by CTC, a division of Parker Hannifin. The program provides deterministic control that runs on any PC or any of CTC’s PowerStation Human-Machine Interfaces (HMI). As a real-time system, a hard disk is not required for operation, removing a potential source of failure. Because MachineLogic is provided with all the IEC-61131-3 PLC programming languages, there is no need for incremental learning.

This solution provides the open environment inherent with PCs without having to re-educate the whole factory, enhancing supportability and minimizing the learning curve for programming and development tools. This solution fully integrates HMI with machine control in a tightly coupled and rugged package.

This control scheme can also be used to break apart a complex machine into several simpler machine control components. In this case, communication between the sub-components must be fast and efficient.

Key Advantages with this Control Scheme:
• When used with PowerStation, more rugged than PC flash memory used, not rotating parts of hard drive
• Real time and deterministic behavior just like a PLC

Motion Controller-Based

Many applications from low to moderate complexity can eliminate a separate machine control component and use the motion controller as the sole machine control. Motion controller capabilities have been expanding rapidly and are capable of controlling inputs and outputs as well as motion parameters. For many applications, this can provide the tightest coupling between the motion and the machine.

For this type of control scheme the machine controller must be a stand-alone controller. A stand-alone controller has its own operating system and must be able to be installed as an individual component. In addition, the controller must be able to interface to human machine interface for data entry and be capable of efficiently controlling inputs and outputs.

This control scheme can also be used to break apart a complex machine into several simpler machine control components. In this case, communication between the sub-components must be fast and efficient.

Key Advantages with this Control Scheme:
• Best value for low to moderate complexity applications
• One programming platform for all machine control functions
• Tight coupling between motion control and machine control

Typical Applications:
• Less than 100 I/O points
• Tight coupling of machine control and motion control like:
  • Electronic cam control
  • Registration moves
  • Complex motion profiles

Typical Applications:
• Ideal for up to 2500 I/O points (16K I/O maximum)
• Need combination of HMI and control or higher speed graphics
Unlimited Application Solutions
Automated assembly, labeling, vision system inspection, ultrasonic inspection, sensor / measurement, optical / laser, gauging, cycle testing, sorting, sampling, data collection pick & place, tray handling, elevator, stacker, palletizers, load / unload, index table, storage & retrieval systems, riveting, cutting, drilling, welding, swaging, forming, winding, bending, assembling, screwdriving, dispensing, gluing, sealing, press feed, material feed, soldering, painting, spraying, blasting/abrasion, simulate, package, barcode read, press, pull, die bonding, and many more...

Parker Offers
• Industrial computers
• Bus based controls
• Ethernet as a bus alternative

*RICOS PT 100 RTD I/O photo courtesy of Wieland Electric Inc.

PC Based Control

PLC Based Control

Parker Offers
• HMI driver for virtually every PLC
• Fieldbus based controls
PC-Based Control

Personal computer-based control is one of the fastest growing segments in machine automation. With advances in software and the price decreases of industrially hardened PCs, they have become a viable alternative in conventional programmable logic controller applications.

Integration of motion control, databases and high-level business systems is the prime benefit of PC-based control. For systems requiring these elements, the PC-based system can provide significant reductions in hardware costs.

Unlike the proprietary hardware of PLC solutions, using a PC as the machine control platform also adds the benefits of open architecture. This greatly increases the breadth of hardware and software available to solve machine automation needs. Some examples are cost-effective networking, integrated control and HMI software, intranet access, supervisory control and data acquisition, manufacturing execution systems, production reports, and statistical process control.

Key advantages with this control scheme:

- PC Industry driven performance and price
- Integral video
- Large amounts of memory and storage
- Large amounts of commercial software
- Open networking
- SQL database integration
- Wide range of development tools
- Richer operating systems
- Huge industry R&D
- Standard Network Support for Ease of Information Flow
- New engineers more familiar with PCs than PLCs
- “Open” means more options for the customer

Typical Applications

- Desire to create machine control programs in C or other standard programming languages
- Applications requiring interfaces with complicated graphics
- Data acquisition/processing in addition to machine control
- Networking of machines and factory activities – connectivity to plant information system
- Need for central control of I/O devices distributed over a large area

PLC-Based Control

The programmable logic controller or PLC is the most common hardware used for machine control. PLCs were first developed in the late 1960’s as an alternative to the relay cabinets that were the most common solution for machine control. Thirty years later, PLCs have had continual iterative developments and are now extremely reliable and flexible devices for machine control. They are perfect for applications requiring hundreds or thousands of I/O points and can control complex processes. Their weakness, however, has been in interfacing with complex equipment outside of the PLC rack such as vision systems and motion control equipment. Traditionally, the PLC used discrete outputs to communicate to the peripheral devices. This placed a great limitation on the type of communication that was possible and made the transmission of numerical values very inconvenient. Often an ASCII module was added to the PLC solely to communicate to the device.

Recently the advent of the fieldbus promises to greatly increase the flexibility of communication by developing standards for communication that could bring many elements together. Unfortunately, no standard exists and each manufacturer has its own hardware and software protocols.

Key Advantages with this Control Scheme:

- High reliability
- Proven technology
- On-line editing

Typical Applications

- I/O centric applications (I/O control is the most critical criteria)
- Process control
- Greater than 500+ I/O points
Mechanical Sub-Systems

No matter what your automation need, Parker Hannifin has the right mechanical solution. Utilizing the most comprehensive array of products in the industry, Parker engineers can craft a system solution to meet your specific requirements. Due to their modular construction, these systems can be provided in an unlimited variety of mechanical configurations, ready for direct integration with motors and controls.

Unlimited Application Solutions
Automated assembly, labeling, vision system inspection, ultrasonic inspection, electronic testing, sensor / measurement, optical / laser, gauging, cycle testing, sorting, sampling, data collection pick & place, tray handling, elevator, stacker, palletizers, load / unload, index table, storage & retrieval systems, riveting, cutting, drilling, welding, swaging, forming, winding, bending, assembling, screwdriving, dispensing, gluing, sealing, press feed, material feed, soldering, painting, spraying, blasting/abrasion, simulate, package, barcode read, press, pull, die bonding, and many more...

High Speed, Long Travel Gantry Robots

System Features
• Up to four axes of motion
• Gantry configuration maximizes floor space utilization
• Belt drive transmission for quick, repeatable motion
• Long life, high duty cycle, heavy loads
• High performance Zenith gearboxes

Typical Applications
• Material handling
• Machine loading/unloading
• Palletizing

High Speed, High Precision Linear Motor Systems

System Features
• Up to three axes of motion
• Linear motor drive for fast response, high acceleration
• Precise, accurate, high resolution positioning

Typical Application
• Laser manufacturing processes
• Vision inspection
• Component handling
High Precision, High Stiffness Positioning Systems

System Features
- Up to six axes of motion
- Precision ground ballscrew drive for precise multi-axis positioning
- Clean room and vacuum compatible
- Long life, high duty cycle

Typical Applications
- Test and measurement
- Automated assembly
- Precision manufacturing

Light Load, Cost Effective Positioning Systems

System Features
- 2 and 3 axes of motion
- Modular electric cylinders and rodless actuators
- Screw or belt drive transmission
- Structural framing included

Typical Applications
- Pick and place motion
- Cutting and dispensing
- Assembly and test
Parker’s CTC Division bundles a tightly integrated Human Machine Interface and PC-based Control solution with an open PC hardware platform. Now there is a single source that provides affordable integration of factory-hardened PC workstations with the industry’s leading HMI and control software.

*Interact* is a feature-rich, PC-based software package that can be tailored to meet the needs of any HMI project. *Interact*’s event-driven kernel enables reliable, high-speed execution for “deterministic” machine operation – in real time. With *Interact*, you will be able to build an application by selecting from a complete family of software modules, ranging from 3-D panel tools, to trending, networking and machine configuration.

**Interact Advantages**
- Bundled with CTC’s full line of PowerStation industrial workstations
- Easy to use Windows development environment
- Highly reliable DOS runtime environment
- Easily imports 256 color bit-map images into applications
- Shares real-time data between factory floor workstations
- Sends data directly from the plant floor to MIS or supervisory stations
- #1 rated HMI software in the industry
**MachineLogic™ PC-Based Logic Controller (PCLC)**

*MachineLogic™* is the automation industry’s very first PC-based Logic Controller (PCLC) because it gives you the best features of PC-based control software and PLCs. Offering the look and feel of PLCs, *MachineLogic* isolates the machine operator from the “PCLC” operating system to simplify runtime operation.

As a PC-based solution, *MachineLogic* effectively delivers the “open systems” advantages of connectivity, integrated development and standardization.

**MachineLogic Advantages**
- Cost-competitive with traditional PLCs
- True “deterministic” control with hardware interrupt for real-time machine-level operation – scan times down to one millisecond
- Fault tolerant design with high-speed retentive memory, power fail detection and watchdog timer
- Development supports all five IEC-61131-3 programming languages
- Supports Profibus and DeviceNet fieldbus I/O, as well as TCP/IP protocol
- Runs on CTC’s entire family of PowerStation workstations with Interact HMI or can run on your PC, as a stand-alone package

**Industrial Computers and Monitors**

In addition to providing a “bundled” solution, CTC also offers a full line of open architecture industrial computers and monitors specifically designed for the factory floor.

- All workstations are bundled with CTC’s *Interact* software, providing the best in performance and expandability, to meet your most demanding applications.
- These PC-based platforms also come standard with Compact FLASH memory, 2 serial ports and a 10 base-T Ethernet port.
- The PowerStation line ranges from 6” panel replacers up to 14” full-featured PC’s.

CTC offers a full line of PowerStation™ workstations to meet a wide range of your operator interface needs. Every CTC workstation is rigorously tested for extreme environmental conditions and vibration to ensure high performance operation – even in the harshest industrial surroundings.
Parker’s Compumotor Division offers a full line of rugged, multi-axis motion controllers and servo and stepper drives for basic or complex applications. With features such as universal connectivity, flexibility and extendability, Parker’s controllers and drives can provide the performance and reliability your application requires.

Compumotor’s revolutionary 6K Controller functions as either an embedded motion controller or a stand-alone motion controller built into one convenient package and can be used for simple to complex motion control applications. Providing the industry standard +/-10 V or step-and-direction output, the 6K is capable of controlling any combination of stepper and servos from 1 to 8 axes. The expansion I/O and an optional synchronization bus allow for easy expansion to fit your motion control needs.

Ethernet capability allows for high speed connections to many different products such as PLC’s, HMI’s, I/O modules and vision systems.

Gemini is a family of digital drives for servo or stepper motion control. The Gemini family is comprised of compact, high performance digital servo and stepper drives available in a variety of power levels and several different control options. Each member of the Gemini family is configurable with a RS232/485 port using Compumotor’s Motion Planner™ software which operates on a PC or Windows CE™-based Palm PC™. For performance enhancing features, available power levels, connectivity and control options, you need to look no further than the Gemini.

The Gemini GV digital servo and the Gemini GT digital stepper are available in both drive and controller/drive versions. The controller-based versions of the Gemini offer the perfect amount of control capability to incorporate into a fieldbus based control scheme.
Dynaserv Motors

Each Dynaserv system consists of a brushless servo motor, microprocessor-based drive, power supply, and a brushless resolver or encoder for position feedback. The primary benefit of the Dynaserv System is high accuracy and torque without speed reducers. Additional advantages include:

- Faster settling time than a traditional servo motor and speed reducer system
- Smooth rotation at slow speeds
- A flat speed/torque curve for high controllability
- Ability to operate in a position, speed or torque control mode
- Built-in test mode simplifies optimum tuning
- Bore hole in motor center for routing of cables

Servo and Stepper Motors

Compumotor has set new industry standards for brushless servo motors in both performance and product availability. Our state-of-the-art motor designs, combined with our exceptional product lead time of less than ten days, has made Compumotor one of the most competitive brushless motor manufacturers in the motion control marketplace.

Compumotor utilizes two distinct technologies in the manufacturing of brushless servo motors. The slotless design and the bridged stator design both reduce motor manufacturing costs while providing performance advantages to the user.

Compumotor can also provide custom motor solutions with minimal impact on price and lead time.

Linear Motors

The linear motor concept is simple. Take a conventional rotary servo motor and unwrap it. What was the stator is now a forcer and the rotor becomes a magnet rail. With this design, the load is connected directly to the motor. Direct linear motion is achieved without any rotary to linear transmission devices. The direct coupling of the forcer to the load provides the following performance benefits:

- High Speeds
- High Precision
- Zero Backlash
- High Stiffness
- Fast Response
- Low Maintenance

Compumotor’s SL Series slotless linear motor has a single-row magnet bar and offers distinct advantages over other linear motor designs.

Compared to ironless design:

- Lower cost and weight
- Better heat dissipation
- More force per package size

Compared to ironcore design:

- Lighter weight forcer
- Lower attractive forces
- Less cogging force
Parker linear tables and multi-axis systems are the preferred choice for reliable, high throughput, precision positioning. These tables can transport payloads at up to 120 inches per second and position them repeatedly within a micron. They are rugged enough to perform well in industrial automation environments: automotive, packaging, aerospace; and precise enough to excel at high end precision applications: semiconductor, bio-tech, instrumentation, computer peripherals.

Parker’s uniquely designed products offer modular flexibility and compatibility to facilitate a simplified straightforward approach for integrating individual products into multi-axis systems. Mechanical positioners, motors, drives, controls, and interfaces are easily combined to form cost effective solutions - tailored to satisfy system objectives.

- Vision inspection
- Precision manufacturing and assembly
- Pick & place
- Wafer manufacturing & testing
- Speeds to 60 in./sec.
- Repeatability: 1 micron
- Loads up to 375 lbs.
- Travels to 80 inches
- IP30 rated strip seals
- Optional cleanroom preparation
Linear Motor Driven Tables

- PCB manufacturing
- High speed assembly
- Laser marking/etching
- Vision inspection
- Test & measurement
- Speeds to 120 in./sec.
- Repeatability: 1 micron
- Acceleration: 5G’s
- Travels to 80 inches
- IP30 rated strip seals
- Optional cleanroom preparation

Rotary Indexing Tables

- Lithography
- Vision inspection
- Precision manufacturing
- Skew alignment for multi-axis systems.
- Repeatability: 0.2 arc minutes
- Loads up to 200 lbs.
- Continuous 360 degree rotation
- Smooth, worm gear drive

Precision Manual Positioners

- Optics focusing
- Fiber optics coupling
- Laser alignment
- Resolutions to .0001”
- Travels to 8.00 in.
- Precise translation & alignment
- Loads up to 150 lbs.
Modular Actuator Solutions For Today’s Automation Applications

Modular Design For Flexible Solutions

Parker is the single source for mechanically actuated motion. Whether the user requires high thrust, long travel, high speeds or a compact actuator for small scale motion, Parker can provide the solution. Parker actuator products are available as single packages or integrated multi-axis systems. In addition, machine structures and guarding are easy to develop and integrate using ParFrame structural framing products.

HLE Linear Modules

The HLE linear module is a proven design that has been used in thousands of applications worldwide. The maintenance-free drive principle requires no periodic lubrication. In addition, it is extremely quiet with low friction characteristics. Simple installation, together with a multitude of possible combinations of various profile sizes, makes the HLE modular design the ideal solution for high performance automation requirements.

- Rated speeds to 200 in./sec.
- Load capacities to 3000 lbs.
- Linear travels to 30 ft. in single profile section
- Repeatability of +/- 0.004 in.
- Five profile cross sections: 60, 80, 100, 150 and 180mm
- Specially designed vertical units (HZR series)
- Modular design for configuring multi-axis robots
- Clean room compatible
- IP30 rated strip seals

Electric Rod and Rodless Cylinders

The ET Series Electric Cylinder, the industry’s first complete, packaged, electric cylinder system, offers an unmatched robust design with the modularity to accommodate different mounting options and motor types.

The ER Series Electric Rodless Actuator features the same industrial design and flexibility as its screw driven cousin, the ET Series, except the ER offers a load-carrying carriage that can be screw or belt-driven. Units from both series can be combined to create integrated, multi-axis systems.

Last, but not least, in this family of products is the Autodrive. The Autodrive is a stand-alone DC brush motor amplifier and limit switch controller system. When your application does not require the complexity or control of a complete Parker stepper or servo system, the Autodrive provides a cost effective alternative. It is available with all Parker mechanical systems, as a stand alone unit, or as a complete motor/drive package.
ParFrame Structural Framing System

ParFrame is a complete system of extruded aluminum framework and mounting accessories. Completely modular in concept, ParFrame is designed to be easy to design, build and modify. StructSure™, an easy to use 3D CAD design software, reduces design time and produces complete bills of materials and labeled drawings.

Typical Applications:
- Machine structures
- Machine guarding
- Enclosures
- Modular workstations

Pneumatic End Effector Products

You can complete a Parker motion system solution with pneumatic end effector products. End effector products add the ability to handle the object being moved, and are available with a complete line of tubing, valves and air handling accessories. These products include:
- Parallel and angular grippers
- Vacuum cups and generators
- Pneumatic slides
- Pneumatic rotary actuators

Precision Planetary and Right Angle Gearheads

- Inertia matching
- Speed reduction
- Increasing torque
- Two performance grade options
- 12 Ratios from 3:1 to 100:1
- Frame sizes: 60, 92, 115, and 142mm
- Certified unit specific backlash
- Continuous torques to 5710 in-lbs
- Input speeds to 10,000 rpm
- Short in-line body lengths
- Short right angle body width
- Customizing options available
- 3 business day shipment standard
- Emergency overnight delivery available
Leading System Integrator Finds Success With Automation Group

Hughes Automation has designed a system that fully utilizes products from the Automation Group to create a complete machine control system. This system is a perfect example of using the motion controller as a machine control and taking advantage of the ability to construct mechanical subsystems. Built for a diesel engine manufacturer, the application involved taking an engine rocker cover and dispensing sealant using an X-Y-Z positioning system. A Compumotor 6K4 Controller, along with CompuCAM software, was used for the motion control dispensing unit. The drive systems included three Compumotor TQ10-EHS drives coupled with SM brushless servomotors. Positioning tables, 406LXR and 404XR, from Parker Daedal were incorporated into the system as well. Parker CTC’s P2 HMI interfaces rounded out the system. As an alternative to welded steel construction, Hughes Automation used ParFrame from Parker Automation Actuator Division as the structural guarding and framing of the system.

As a leading Systems Integrator in the Southeast, Hughes continues to look for innovative control packages to use in their systems. The Parker Compumotor 6K4 Controller provided the company all the functionality it needed. According to Matt Haddad, mechanical systems engineer with Hughes’ Custom Machine Group, “The 6K4 allowed us to create complex pre-compiled move profiles for our X-Y-Z dispensing system. The soft operating system (6000 Series Command Language) made programming the controller and
interfacing it with a Parker CTC HMI very user friendly. Plus, the 6K4 small package size made it extremely modular, and it easily mounted inside the control cabinet on a DIN rail. In fact, the system we designed and built was a total Parker solution."

The application requires that an operator manually place a rocker lever cover into the system. Once the cover is in position, the operator starts the machine cycle by engaging a safety switch. A CAD drawing of the rocker lever cover is converted to 6K motion commands using CompuCAM software. The 6K controls two axes of motor-driven positioning tables to accurately dispense a sealant on the edge of the rocker lever cover. At the end of the cycle, the dispensing head returns to a home position. Once the cycle is complete, the operator manually removes the rocker lever cover and installs it on the engine in production. The operator has complete control over all system diagnostics, as well as other variable changes, through the system's CTC panel. Because the dispensing system offers the manufacturer the ability to automate its capabilities, and because the machine was delivered on time to the customer, work is now under way for the delivery of similar dispensing machines to other divisions within the engine manufacturer.

"... The system we designed and built was a total Parker solution."
Automation System Advantage

A Total System Solution

The complimentary products and technologies from the four divisions of Parker’s Automation Group CTC, Compumotor, Daedal, and Automation Actuator Division; offer the widest array of products for machine automation. With high quality products and support, Parker has solved thousands of industrial control applications. Parker engineering and management work together to tightly couple products to provide seamless integration for your next application.

Whether you need mechanics, electronics, or both, Parker’s solution provides the “perfect fit” for End Users, Machine Builders, OEMs, and System Integrators alike. Parker’s total systems capabilities ensure that you get everything you need and that it all works together while still reducing your vendor count. Select the Parker solution for your next automation application and you’ll soon discover the strength of Parker’s Automation Group.

Customer Service and Support

Parker Hannifin has become a world leader in motion and control technology by providing premier customer service. In fact, customer service is ingrained in our culture which is evident from the services we offer including:

- Applications Engineers that provide technical answers to application and product questions, either by phone, fax or over the Web
- Local application support provided by Parker Electromechanical Territory Managers (ETM’s) and a network of Automation Technology Centers (ATC’s)
- Extensive on-line product support tools at: www.parker.com/machineautomation
- 1-800-C-PARKER support 24 hours a day, 365 days a year
- Specially designed product training programs offered both locally or at our factory locations
- PIN program

Engineering and Manufacturing Excellence

Parker Automation Group’s engineering and manufacturing capabilities form the cornerstone of everything we offer you. We utilize the latest in computer-aided design technology to help bring new products to market faster. Our factories are equipped with the most modern manufacturing techniques and machine tool technology to meet the stringent demands of both quality and delivery.
At Parker, we understand the demands of the global marketplace. Throughout North America, Europe, and the Pacific Rim, our motion control products are delivered and supported through a comprehensive network of Automation Technology Centers (ATCs). In addition to those services offered by traditional distributors, these organizations specialize in the application of high technology automation equipment. ATCs offer local product availability, product demonstrations, programming assistance, system integration, and local customer training. ATCs serve the industrial needs unique to each region and can also supply complementary products and services. The ATC network includes 90 organizations and more than 125 outlets throughout the world.

Parker’s Electromechanical Territory Manager

Parker employs a motivated team of certified, factory-trained field application engineers that represent all the divisions and products to make up a complete electromechanical system. This network of Electromechanical Territory Managers (ETM’s) work in conjunction with the local Automation Technology Centers (ATC’s) and are ready to offer you assistance and provide direct factory contact.

Local Product Availability and Service around the World

At Parker, we understand the demands of the global marketplace. Throughout North America, Europe, and the Pacific Rim, our motion control products are delivered and supported through a comprehensive network of Automation Technology Centers (ATCs). In addition to those services offered by traditional distributors, these organizations specialize in the application of high technology automation equipment. ATCs offer local product availability, product demonstrations, programming assistance, system integration, and local customer training. ATCs serve the industrial needs unique to each region and can also supply complementary products and services. The ATC network includes 90 organizations and more than 125 outlets throughout the world.

Your local independent Automation Technology Center (ATC) has been factory-trained to offer you expert service and advice. Parker works cooperatively with its authorized ATCs to recruit, hire, and train certified engineers for positions with ATC organizations. Over 400 certified engineers have been placed in our ATC organizations, each a graduate of an extensive eight-week factory training curriculum.
The Automation Group is a part of a Fortune 500 Corporation listed on the New York Stock Exchange (PH). Parker is the leading global company manufacturing the widest variety of components and systems designed to control motion, flow and pressure in all types of machinery and other equipment.

We offer over 1,400 product lines that control motion in 1,000 industrial and aerospace markets. Parker is the only manufacturer to offer its customers a choice of hydraulic, pneumatic, electromechanical, and computer motion control solutions. And, we have the largest distribution network in our field, with over 7,500 distributors serving more than 350,000 customers worldwide. No single competitor offers as broad a product range or possesses such a diversity of application experience.

Parker products are found in satellites orbiting the earth, machine tools, mobile equipment, oil rigs and refineries, hospitals and laboratories... any place where machines depend on motion or fluid control.
Parker Automation is committed to providing the automation market with the most comprehensive array of motion control components and systems. Parker’s total systems capabilities ensure that you get everything you need and that it all works together while still reducing your vendor count.
Website
To learn more about Machine Automation solutions, visit our website:
www.parker.com/machineautomation
or email us at:
machineautomation@parker.com

Phone
Call us at 1-800-237-0181
## Division Offices

### CTC Division
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- Tel: 1-513-831-2340
- Fax: 1-513-831-5042
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- Web: [http://www.ctcus.com](http://www.ctcus.com)

### Compumotor Division
- Address: 5500 Business Park Drive, Rohnert Park, CA 94928
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- Fax: 1-707-584-2446
- Email: sales@cmotor.com
- Web: [http://www.compumotor.com](http://www.compumotor.com)

### Daedal Division
- Address: 1140 Sandy Hill Road, Irwin, PA 15642
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### Automation Actuator Division
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### Zenith Division
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- Fax: 1-919-774-5952
- Email: zpgearh@parker.com
- Web: [http://www.parkergearhead.com](http://www.parkergearhead.com)

## Regional Offices

### Eastern Region
- Address: PMB #108, 430 Franklin Village Drive, Franklin, MA 02038-4007
- Tel: 1-508-533-5902
- Fax: 1-508-533-8530

### Midwest Region
- Address: 500 S. Wolf Road, Des Plaines, IL 60016
- Tel: 1-847-294-2628
- Fax: 1-847-294-2630

### Southern Region
- Address: 10800 Sikes Place Ste. 310, Charlotte, NC 28277
- Tel: 1-704-849-9125
- Fax: 1-704-849-9325

### Western Region
- Address: 5500 Business Park Drive, Rohnert, Park, CA 94928
- Tel: 1-707-584-7558
- Fax: 1-707-584-8015